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INVESTOR IN PEOPLE

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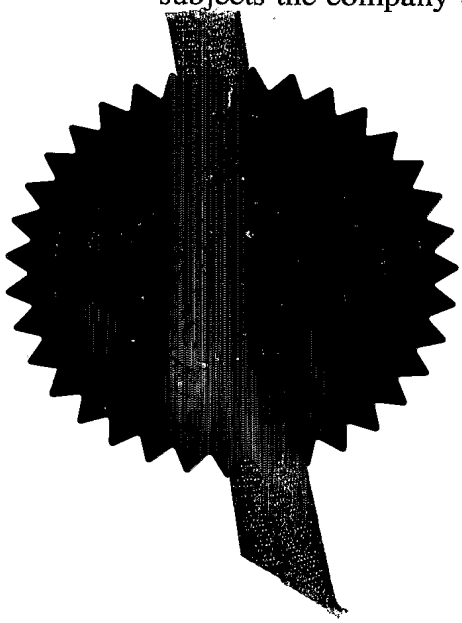

Signed 

Dated 14 September 2004

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Patents Form 1/77

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P01/7700 0.00-0328937.8 ACCOUNT CHA

Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road
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1.	Your reference	P4242.A1/DCC
2.	Patent application number *(The Patent Office will fill in this part)*	0328937.8
3.	Full name, address and postcode of the or of each applicant *(underline all surnames)* Patents ADP number *(if you know it)* If the applicant is a corporate body, give the country/state of its incorporation	Checkmate UK Limited New Road New Road Industrial Estate SHEERNESS ME12 1PZ UNITED KINGDOM UNITED KINGDOM 7009488002
4.	Title of the invention	Lifeline Trolley
5.	Name of your agent *(if you have one)* "Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)* Patents ADP number *(if you know it)*	DUMMETT COPP 25 THE SQUARE MARTLESHAM HEATH IPSWICH IP5 3SL 6379001 ✓

6.	If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and *(if you know it)* the or each application number	Country	Priority application number *(if you know it)*	Date of filing *(day / month / year)*

7.	If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application	Number of earlier application	Date of filing *(day / month / year)*

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? *(Answer 'Yes' if:*
   a) any applicant named in part 3 is not an inventor, or
   b) there is an inventor who is not named as an applicant, or
   c) any named applicant is a corporate body.
   See note (d))

YES

Patents Form 1/77

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

Continuation sheets of this form	
Description	5
Claim(s)	0
Abstract	0
Drawing(s)	2 +2

10. If you are also filing any of the following, state how many against each item.

Priority documents	
Translation of priority documents	
Statement of inventorship and right to grant of a patent *(Patents Form 7/77)*	
Request for preliminary examination and search *(Patents Form 9/77)*	
Request for substantive examination *(Patents Form 10/77)*	
Any other documents *(please specify)*	

11. I/We request the grant of a patent on the basis of this application.

Signature Date

DUMMETT COPP 12th December 2003

12. Name and daytime telephone number of person to contact in the United Kingdom

David Copp
01473 660600

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Notes

a) *If you need help to fill in this form or you have any questions, please contact the Patent Office on 0645 500505.*

b) *Write your answers in capital letters using black ink or you may type them.*

c) *If there is not enough space for all the relevant details on any part of this form, please continue on a separate sheet of paper and write "see continuation sheet" in the relevant part(s). Any continuation sheet should be attached to this form.*

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e) *Once you have filled in the form you must remember to sign and date it.*

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Lifeline Trolley

This invention relates to a trolley adapted to travel along a lifeline set up to allow personnel to connect their safety harnesses to the trolley, so that they can move about while still being connected to the lifeline, through the trolley.

According to the invention, there is provided a trolley having a channel adapted to fit over a lifeline, an means for connecting a lifeline harness to the trolley and a brake activated by movement of the connecting means relative to the trolley, to brake the trolley relative to the lifeline.

The trolley is preferably adapted to run on a generally horizontal lifeline.

The connecting means preferably comprises an elongate aperture through a body of the trolley, with a movable finger traversing the aperture and with the harness lifeline connected to the finger and movable in the aperture so that movement of the finger relative to the aperture activates the brake.

The brake preferably comprises a cam mounted for pivoting movement in the trolley body, with the movable finger forming part of the cam, and another part of the cam projecting into the channel to engage the lifeline, when he finger moves to rotate the cam.

The cam preferably has two fingers, both of which traverse the elongate aperture and the harness lifeline is located between the two fingers so that movement of the harness lifeline in either direction causes the cam to rotate.

The cam is preferably symmetrical about a vertical axis.

The trolley may include a karabiner fitted in the aperture, with a limb of the karabiner located between the two fingers of the cam. A user can then clip his harness lifeline into the karabiner.

The channel for accommodating the lifeline wire preferably has an opening at one point around its circumference to allow the trolley to pass a lifeline support bracket. the opening is preferably at a part of the circumference where it will not lie against the lifeline during use.

The invention will now be further described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a first perspective view of a trolley according to the invention on a lifeline;

Figure 2 is a second perspective view of the trolley of Figure 1;

Figure 3 is a third perspective view of the trolley

of Figure 1;

Figure 4 is a longitudinal section through the trolley; and

Figure 5 is a transverse section through the trolley.

Figure 1 shows a trolley generally designated 10 in place on a wire lifeline 12. The lifeline will be tensioned between brackets on a structure where workmen will be working above the ground, in a manner which is well known. The trolley 10 has a body with a tubular portion 14 within which the lifeline 12 is received. The tubular portion 14 is able to slide freely in either direction along the lifeline. The tubular portion also has a mouth 16 (see particularly Figure 5) which is too narrow to allow the trolley to be removed from the lifeline 12, but which will allow the trolley to pass lifeline support brackets (not shown), in a manner known *per se*.

A lower portion of the body has an aperture 18 into which a lifeline harness can be connected. In the figures, a karabiner 20 is shown in position in the aperture 18. This karabiner may be permanently fixed to a user's harness lifeline, or another karabiner or other hook on the end of the harness lifeline may be connected into the karabiner 20. The latter is preferable.

Within the body of the trolley is a cam 22. As can be seen in Figure 4, the cam has a fork 24 which extends

across the aperture 18. The cam is mounted for pivoting movement on an axle 26, and has a cam face 28. As can be seen in Figures 1 and 2 the karabiner 20 has a limb 20a which is located between the two limbs of the fork 24. Under normal conditions, the cam 22 will be in the central position as shown in Figures 3 and 4, and the limb 20a of the karabiner will lie in a recess 30 of the aperture 18. However, if there is a sudden load on the karabiner, as a result of a workman falling or losing his balance, the karabiner will move to one or other end of the aperture 18, causing the cam 22 to pivot about the axis 26, where upon the cam face 28 projects into the cross-section of the tubular portion 14 and jams the trolley against the lifeline 12. This is shown in Figures 1 and 2.

To prevent this locking action happening too readily, which would obstruct normal motion of the trolley along the length of the lifeline 12, a spring loaded pin 32 normally holds the cam 22 in its middle position as shown in Figure 4. The pin 32 engages in a detent 34 in the cam. However, a sharp load on the cam will overcome the spring force which holds the pin 32 in the detent 34 so that the cam can move to one side or the other to lock the trolley to the lifeline. The recess 30 also helps gravity to keep the karabiner in the central position under normal conditions.

The trolley body is preferably a single cast component.

It will be noted that the mouth 16 of the tubular portion

14 is only open at a lower region of the tubular portion so that when a load comes on a trolley the lifeline is not pulled against the mouth 16. Also, the ends 14a and 14b of the slot 14 are chamfered so that when the trolley approaches a mounting bracket, it is caused to rotate about the axis of the lifeline to enable it to pass the mounting bracket.

All of these features make for a rugged trolley with a simple locking mechanism which will not lock on the lifeline unless it is subjected to a sudden snatch load. The level of load at which locking will take place can be adjusted by setting of the spring tension on the pin 32.

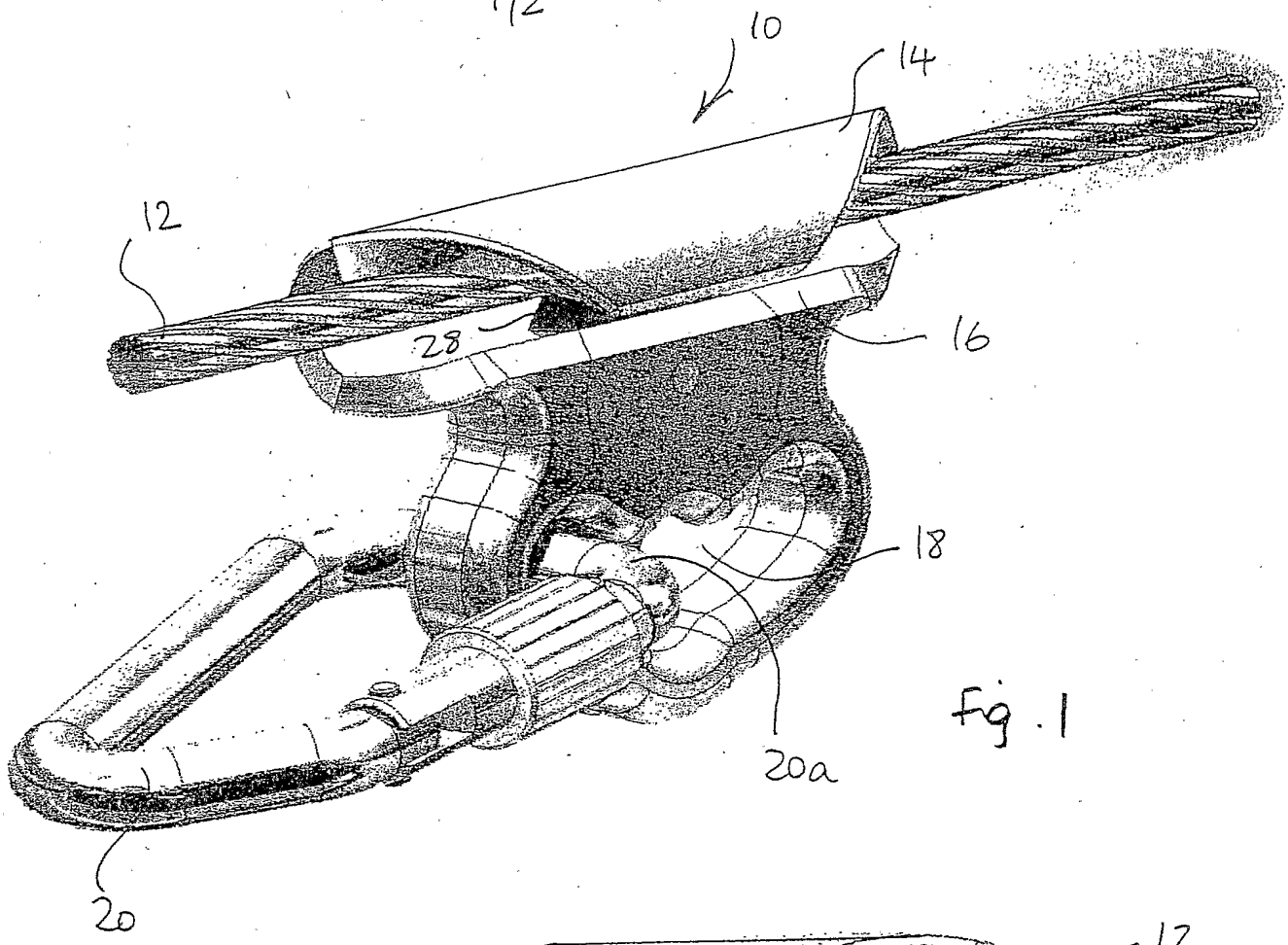

Fig. 1

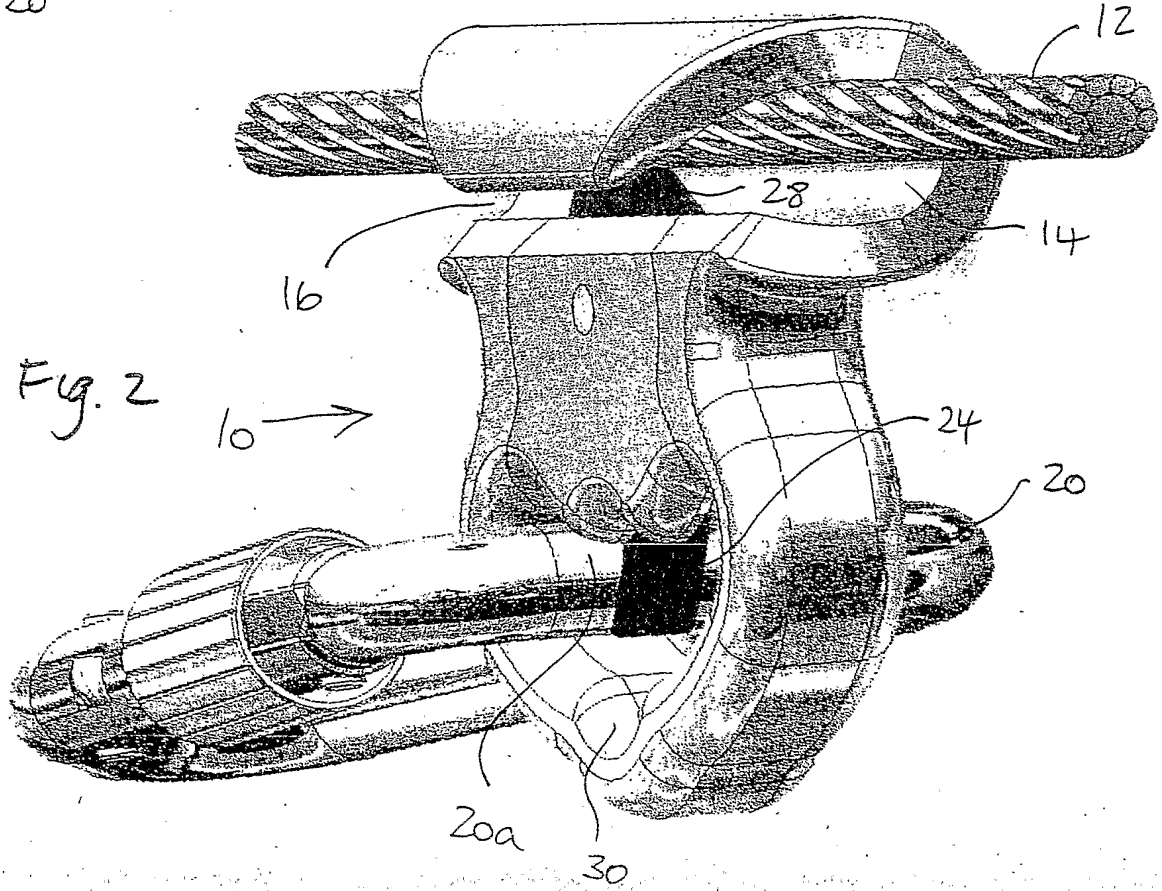

Fig. 2

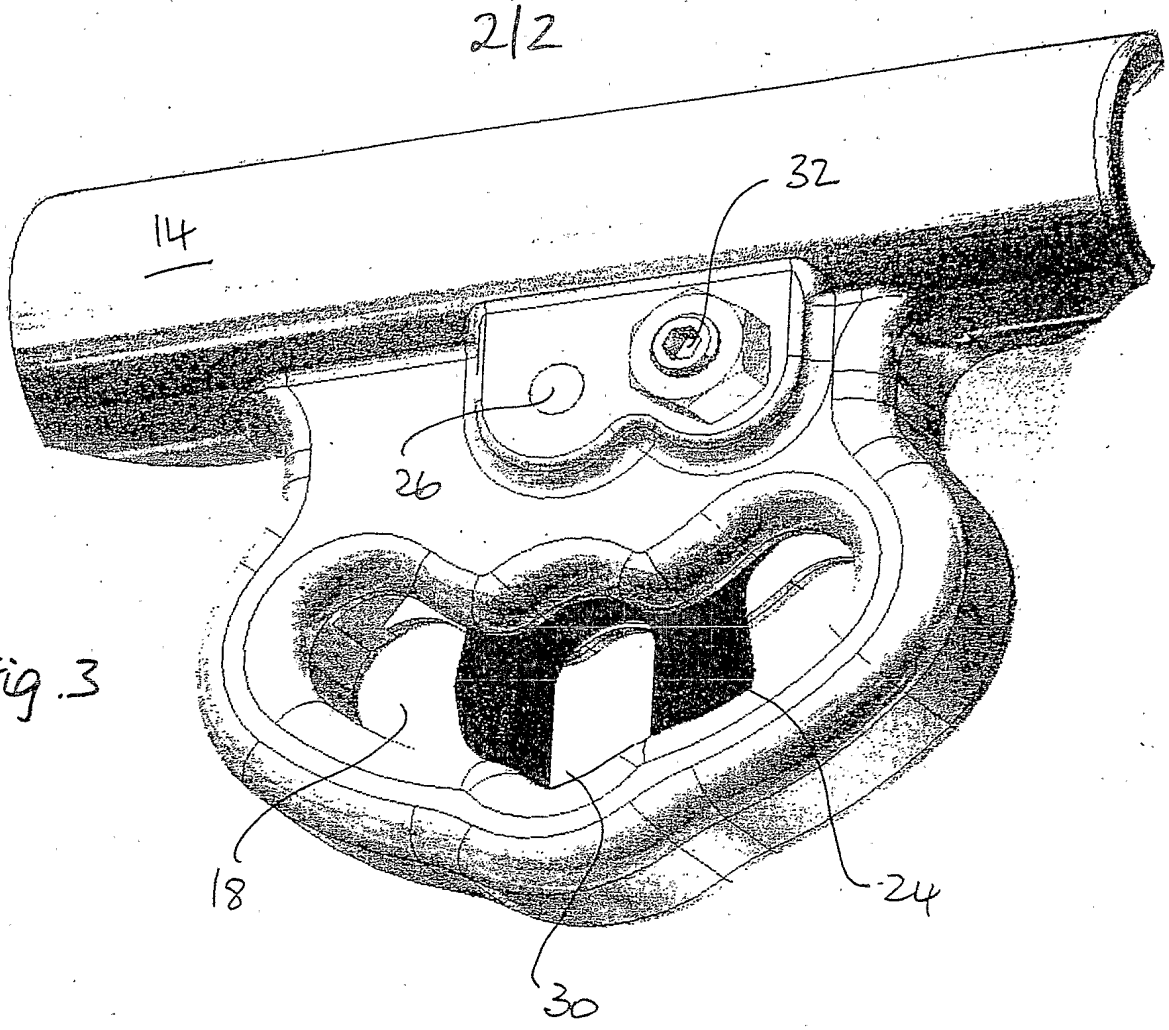

Fig. 3

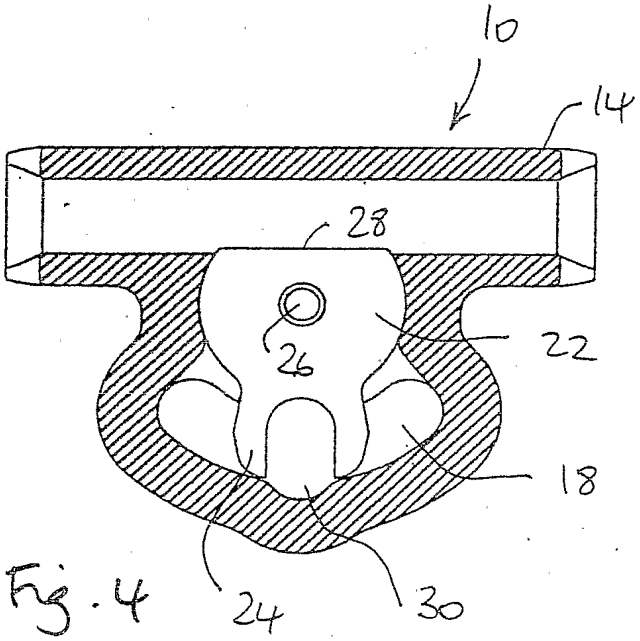

Fig. 4

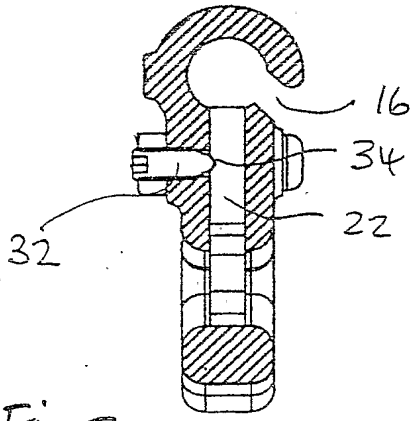

Fig. 5

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